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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,088	06/15/2005	Kenichi Miyoshi	L9289.05145	7120

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EXAMINER
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MITCHELL, DANIEL D

ART UNIT	PAPER NUMBER
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4134

MAIL DATE	DELIVERY MODE
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06/11/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,088	<b>Applicant(s)</b> MIYOSHI, KENICHI	
	<b>Examiner</b> DANIEL MITCHELL	<b>Art Unit</b> 4134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/15/2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 15 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/15/2005</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, 4, 5, and 6 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S PG Publication No. 2002/0061051 to Kitahara ("Kitahara").

As for **claim 1**, A radio transmission apparatus in a multicarrier CDMA system that transmits a signal by spreading the signal on a plurality of subcarriers, comprising (Kitahara -page 10, paragraph 130 teaches a CDMA base station that communicates with mobile terminals through a plurality of paths by spreading a signal) :

a weighting section that assigns weights which vary from one spreading code to another and from one chip to another to the spread signals (page 10, paragraph 129 teaches a weight control section);

and a transmission section that multiplexes the weighted signals and transmits the multiplexed signal (page 12, paragraph 156 and fig 3. discloses rf transmitters – elements M1 to MN) .

As for **claim 4**, Kitahara discloses a radio communication terminal apparatus comprising the radio transmission apparatus according to claim 1

(Kitahara - page 12, paragraph 156 and fig 3. discloses a base station device – elements M1 to MN).

As for **claim 5**, A radio communication base station apparatus comprising the radio transmission apparatus according to claim 1 (page 12, paragraph 156 and fig 3. discloses a base station device – elements M1 to MN).

As for **claim 6**, see similar rejection as to claim 1.

***Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S PG Publication No. 2002/0061051 to Kitahara ("Kitahara ") in view of U.S. Patent No. 6,671,340 B1 to Kroeger et al. ("Kroeger").

As to **claim 2**, Kitahara discloses a radio transmission apparatus as to the parent claim.

Kitahara does not expressly disclose weighting section that uses such weighting factors that orthogonality among spreading codes is secured when a reception apparatus performs despreading using factors so as to obtain maximal ratio combining as the weighting factors to be used for said weighting

Kroeger discloses a weight that is determined by maximal ratio combining to adaptively adjust the weighting of a sub carrier (Kroeger column 8, lines 1-34).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to weighting section that uses such weighting factors that orthogonality among spreading codes. The suggestion/motivation would have been to reduce interference in a receiver (Kroeger column 2, lines 8-9)

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S PG Publication No. 2002/0061051 to Kitahara ("Kitahara ") in view of U.S. Patent No. 6,873,651 B2 to Tesfai et al. ("Tsfai").

As to **claim 3**, Kitahara discloses a radio transmission apparatus as to the parent claim.

Kitahara does not expressly disclose weighting section uses such weighting factors that when the reception apparatus decomposes a matrix into Eigen values using a spreading factor as the size of the matrix based on channel estimation value information for each subcarrier, a signal having a maximum Eigen value is extracted as the weighting factors to be used for said weighting.

Tesfai discloses that a receiving device computes the eigenvector corresponding to the maximum Eigen value to optimize a signal to noise ratio (Tesfai – column 2 lines 1-37)

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to weighting section that uses such when the reception apparatus decomposes a matrix into Eigen values using a spreading factor as the size of the matrix. The suggestion/motivation would have been to optimize the SNR of a communication system (Tesfai – column 2, line 5).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MITCHELL whose telephone number is (571)270-5307. The examiner can normally be reached on Monday - Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lao Lun-yi can be reached on 571-272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. M./

Examiner, Art Unit 4134

/Yogesh K Aggarwal/

Primary Examiner, Art Unit 2622